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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,567	10/08/2003	Motoyoshi Murakami	MTS-3473US	7770
23122	7590	07/11/2006	EXAMINER	
RATNERPRESTIA			BERNATZ, KEVIN M	
P O BOX 980			ART UNIT	
VALLEY FORGE, PA 19482-0980			PAPER NUMBER	
			1773	
DATE MAILED: 07/11/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/681,567

**Applicant(s)**

MURAKAMI ET AL.

**Examiner**

Kevin M. Bernatz

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-44 is/are pending in the application.
- 4a) Of the above claim(s) 25-27 and 33-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-24, 28-32, 43 and 44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Amendments to claims 1, 43 and 44 and cancellation of claim 8, filed on April 25, 2006 and April 28, 2006, have been entered in the above-identified application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Request for Continued Examination***

3. The Request for Continued Examination (RCE) under 37 CFR 1.53 (d) filed on April 25, 2006 is acceptable and a RCE has been established. An action on the RCE follows.

### ***Claim Rejections - 35 USC § 103***

4. Claims 1 – 7, 10 – 21, 24, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirino et al. (U.S. Patent App. No. 2003/0134154 A1) as evidenced by Bertero et al. (U.S. Patent No. 6,150,015) for the reasons of record as set forth in Paragraph No.'s 7 and 9 of the Office Action mailed on December 21, 2005.

Regarding the amended limitation “wherein the width of the structural unit of said first under layer is substantially 2 nm or less”, the Examiner notes that this was previously the limitation of claim 8. Regarding the amended limitation “in a film thickness direction”, the Examiner notes that this scope is identical to how the language

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“direction perpendicular to the layers” was already interpreted (i.e. the scope has not changed, but the wording is now more conventional).

5. Claims 9 and 30 – 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirino et al. ('154 A1) as evidenced by Bertero et al. ('015) as applied above, and further in view of Carcia (U.S. Patent No. 5,106,703).

Carcia is relied upon in a substantially identical manner as applied in Paragraph 10 of the Office Action mailed December 21, 2005.

6. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirino et al. ('154 A1) as evidenced by Bertero et al. ('015) as applied above, and further in view of Kirino et al. (U.S. Patent No. 5,814,400).

Kirino et al. ('400) is relied upon in a substantially identical manner as applied in Paragraph 11 of the Office Action mailed December 21, 2005.

7. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirino et al. ('154 A1) as evidenced by Bertero et al. ('015) as applied above, and further in view of Birukawa et al. (U.S. Patent No. 5,993,937).

Kirino et al. ('400) is relied upon in a substantially identical manner as applied in Paragraph 12 of the Office Action mailed December 21, 2005.

***Response to Arguments***

**8. The Double Patenting rejection of claims 1 – 7, 9 – 24, 28 – 32, 43 and 44 in view of App. '273.**

The above noted rejection has been withdrawn because applicant(s) have successfully terminally disclaimed over the above identified application.

**9. The rejection of claims 1 – 7, 9 – 24, 28 – 32, 43 and 44 under 35 U.S.C § 103(a) – Kirino et al. in view of various references**

The Examiner notes that the majority of applicants' arguments have been addressed in the advisory action mailed April 10, 2006. In the request for reconsideration submitted along with the RCE, applicant(s) argue(s) that "[s]ince each of claim 1, 43, and 44, as amended, recites an under layer size of substantially 2 nm or less that is significantly smaller than Kirino's self-imposed limit of 10 nm or more, Applicants respectfully submit that Kirino teaches away from an underlayer" (*emphasis in original*) meeting applicants' claimed limitations (*pages 9 – 10 of response*). The Examiner respectfully disagrees.

The Examiner notes that applicants are confusing a film thickness with a "width of a structural unit". See attached Figure I. As such, applicants' arguments are moot since applicants films possess a thickness substantially in the same range as that disclosed by Kirino et al. (*see applicants' claim 10*).

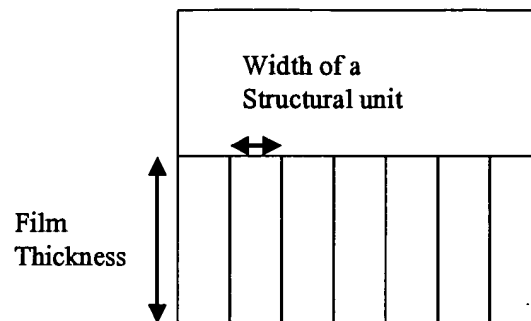


Figure I: Illustration of difference between a "film thickness" and a "width of a structural unit"

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the provided English Language Translation of previously noted pertinent prior art JP 06-020313 A. JP '313 A disclose a columnar magneto-optic recording medium comprising three exchange coupled magnetic layers, all of which can be columnar structured, wherein the recording layer can be formed with a gradient by varying the pressure of an inert gas during the deposition process (*Paragraphs 0014 – 0016, 0021, 0022, 0030, 0031 and 0031*). However, JP '313 A does not teach or suggest controlling the widths of the structural units.

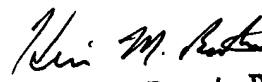
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMB  
July 5, 2006

  
Kevin M. Bernatz, PhD  
Primary Examiner